NORTH AMERICAN CATASTROPHE SERVICES, INC.

Base Model Summary

Model Number NACS-DMCV
Diesel Mobile Command Center
Continuity of Operations Vehicle
40' Custom Command/Communications Module
Engine, Chassis, Body Systems, and Communications Specifications

Engine

The engine shall be a Mercedes-Benz MBE926 supported by Detroit Diesel and Freightliner, turbocharged, after-cooled, 7.2 Liter, electronic diesel rated at 330 Hp @ 2,200 rpm, 1000 lb*ft @ 1,300 rpm. Engine specifications are as follows:

6-Cylinder, 3-valve technology Diesel	
Bore—in (mm)	4.17 (106)
Stroke—in (mm)	5.35 (136)
Displacement—cu in (L)	439 (7.2)
Aspiration	Charge air cooling

Basic Engine Equipment

Air inlet manifold heater
Cooling, belt driven jacket water pump, oil cooler
Crankcase breather
Electronic Control Module (ECM)
Electronic data link, ATA/SAE
Flywheel and SAE No. 2 housing
Lubricating, spin-on filter, pump, rear sump pan
Hydraulic Electronic Unit Injection (HEUI)
Fuel, spin-on filter, transfer pump
Governor, full range electronic
1000-watt block heater
Lifting Eyes
Turbocharger
Vibration Damper
Fuel/water separator

Performance Data

Rated hp (kw)	330
Rated rpm	2200
Low idle rpm	700
Operating range (rpm)	960
Altitude capability ft (m)	10,000 (3050)
Peak Torque-lb-ft (N-m)	860 (1166)
Peak Torque rpm	1440
Peak Torque Rise (%) (Gov. rpm)	19

Electronic Features

Electronic Engine Management with Individual unit pumps and centrally arranged 7-hole injection nozzles.

Electronic Self-Diagnostics
Compatible with Caterpillar Electronic Technician (ET), Electronic Control Analyzer Programmer (ECAP), and MPSI Pro-Link service tools.
Cold weather startup strategy and electronic idle control functions
ECM storage of operational, maintenance, and diagnostic data
J1939 compatible—ABS, Allison WT
Customer selectable, re-programmable operation parameters:

- Engine Monitoring System—off, warning, derate, or shutdown
- Cruise control with exclusive SoftCruise
- Vehicle speed-mph (km/h)-limiting and protection
- Idle Shutdown timer & overridePage

- 2-speed fast idle
- Maintenance monitor—(miles or hours)
- Cooling fan control
- Customer password protection
- Exhaust brake operational modes
- Theft deterrent
- Adjustable low idle rpm
- OEM parameter lockout

Transmission

Transmission shall be Allison 3000 MH, six-speed automatic with lock up

Gear ratios:	first	second	third	fourth	fifth	sixth	Rev.
	3.49:1	1.86:1	1.41:1	1.00:1	.75:1	.65:1	5.03:1

Brakes

Front and rear service:
Full air brakes with auto slack adjusters and ABS
15x4 in (front) and 16.5 x 7 in (rear) drum-style S-cam

Parking:
Spring-applied air release 16.5 x 7 in drum style (rear axle), Push-pull lever controlled

Cooling System

Radiator Core: 2 rows, 15 FPI, 1050 in. sq. (6775 cm. sq.)

Radiator Type: Cross-flow, rear mounted

Charge Air Cooler: Cross-flow

Transmission Oil Cooler: Remote mounted water to oil

Fan: Belt driven

Electrical System

Alternator: Leece-Neville 160 amp

Starting: Denso 12 volt

Batteries: Two 950 CCA @ 0-degrees F; maintenance free, four 575 CCA

Unit shall have 2 (two) built-in converter/chargers for shore power hookup or operate from generator

Batteries

A total of six (6) maintenance-free, deep cycle marine batteries are provided with four (4) on a tray adjacent to the driver's side rear wheel well. These 4 units operate the DC components. The other two (2) shall be mounted in the adjacent compartment accessible on front-hinged fiberglass door. These batteries are utilized for the chassis operations. The system shall have a separate and independent master disconnect switch installed in the driver's compartment adjacent to the front door.

The batteries have the capability to interconnect the systems on a momentary basis for the purpose of starting the vehicle in emergency conditions. A momentary contact switch is mounted on the dashboard for this purpose.

Fuel Tank

100 gallon (376L) dual fill

Steering System

Unit shall utilize TRW TAS 65, integral hydraulic power gear

Rating: 12,000 lb (5448kg)

Ratio: 20.4:1

Pump: Gear-driven

Wheel cut: 50 degrees (tire size may affect wheel cut)

Chassis Specifications

The chassis shall be a 2005 Freightliner XC Series with a 252 in. wheelbase, with raised rails for additional storage in the basement of the unit.

Vehicle Weight Rating

Front GAWR	12,000 lbs.
Rear GAWR	19,000 lbs.
Gross Vehicle Weight Rating (GVWR)	32,000 lbs.
Gross Combined Weight Rating (GCWR)	42,000 lbs.

Raised Frame Rail

Dimensions:	9.00 x 2.75 x .25 Section Modulus
Resistance to Bending Moment	291,000 lb.*In.

Front Axle

Make:	Meritor FF-961
Capacity:	12,000 lbs.
Track Width:	81.9 in.

Rear Axle

Make:	Meritor RS-19-145
Capacity:	20,000 lbs.
Track Width:	72.1 in.
Drive Ratio:	4.63 : 1

Suspension

Type:	Neway Air Suspension Front and Rear
Shock Absorbers:	Sachs Tuned Shocks
Heavy Duty Stabilizer Bar:	1.5 in. diameter

Tires

Make: Michelin XZE Size: 22.5 x 8.25
Size: 275/80R22.5 LRG Pattern: 10 Bolt Lug
Wheels: Aluminum with Chrome Trim Kit

Trailer Hitch & Tow Points

Trailer Hitch is a class 5 receiver rated at 10,000 lbs. and a 1000 lb. maximum vertical tongue weight including hitch pin, male trailer plug connector and fixed mounted female socket connector to be wired per client specifications.

Instrumentation

Gauges: Speedometer with odometer, Tachometer, Engine Oil Pressure, Water Temperature, Coolant Level, Voltmeter, Fuel Level, Dual Air Pressure

Body Specifications

Dimensions:
Overall Length: 39'7"
Overall Width, Slides In: 8'4"
Overall Width, Slides Out: 13'
Overall Height: 13'6" (with antennas installed)
Headroom: 84"

Body Construction

- Floor: Vacuum laminated 3" steel frame with ducted heating, ½ in. Structurewood Flooring.
- Floor Covering: Industrial grade Loncoin, LonSeal II, non-skid, static-free and seamless from front to rear.
- Walls: Laminated aluminum framed sidewalls. Interior finish to be specified by Client.
- Roof: Laminated aluminum framed one-piece system with custom engineered aluminum walkways and antenna channels. Roof is designed and built in accordance with Clients specified communications package.
- Entry Doors: Front entry door will be located curbside in front of wheel well. Front entry door will include combination deadbolt lock. Rear entry door to be located on street-side behind wheel well. All step wells will be covered with non-skid material. Heavy-duty assist handles shall be mounted on the exterior of the unit next to the entrance doors. Courtesy lights shall be provided in the front door step well.
- Compartment Doors: Laminated aluminum, insulated, with key lock. Exterior storage compartments shall be top-hinged with gas piston stays and interior lights. Forward exterior storage compartment shall have full cross-coach storage accessible through both sides.
- Exterior Surface: Gel coat Fiberglass Skin with superior finish and graphics package to Warren County OEM preference.
- Undercoating: Factory Installed, full chassis
- Mirrors: Remote Operated, Heated, Bus style
- Insulation: Unit will have factory installed Arctic Insulation Package approximately 2" thick of polystyrene foam.
- Roof Top: Unit shall have custom designed and custom-built diamond plate platform running the full length of the roof for antenna access. Additionally a raised aluminum platform engineered to work with requested components, grounded to the chassis.
- Exterior skin color: to be designated by Client, typically white over logo color. Logo color extends from top of exterior compartment doors down with two 6" 3M Scotchlite reflective stripes above compartment doors.
- There shall be keys provided for entrance doors, storage compartment doors, and gas filler caps.

Driver/Passenger Compartment

Seating: Leather 6-way power drivers seat, leather passengers seat; passenger's seat shall swivel 180 degrees. Driver & passenger with hinge arm rest, high back frame.

Driver's console to include panel switches for the following:

- Master control switch and hour meter for Front Generator
- Master switch for Emergency Lights
- Idle adjust, electronic
- Exhaust Brake operational modes
- Mirror adjust

- Master switch for Wiper operation w/ intermittent feature.
- Clip Lights
- Exterior side-mount scene lights switch
- Radio control master switch
- Defroster fans master
- Driving lights master
- Control face for Stereo/CD receiver/GPS Receiver

Driver's panel to include the following gauges:

- Dual air brake; front & rear
- Main engine tachometer
- Odometer with interactive trip
- Alternator/battery gauge
- Main engine temperature gauge
- Main Engine oil pressure gauge
- Monitor for rear-vision camera (Back up camera w/audio-in)
- Start/Stop, hour meter and green indicator light for front mounted generator

Steering column to have telescoping and tilt feature with dual tone horn and controls for"Cruise Control" feature

Television: 27" Flush mount monitor mounted in ceiling compartment for Satellite reception or VHF/UHF reception and direct connected to video switch for viewing of mast mounted camera or server computer or other video signals.

Entertainment: AM/FM with CD, 4 speakers with balance and fader control (2 speakers in command section, 2 speakers with communication section)

Entrance Steps: Electric Deploy, single (front & rear), lighted.

Comfort: Automotive style heating/AC system while transporting

Overhead drivers console shall include:

- C.B. w/weather band capabilities
- Power Switches for Whelen Emergency lights
- Whelen Siren/PA System,
- Client supplied radio transceiver.

A Convenience tray with beverage holder and map storage will be installed adjacent left of the driver's position.

Blackout curtains for front cab area in accordance with FMVSS minimum requirements.
Two (2) defroster fans with instrument panel switch

Map pocket

Switch for Exterior mirrors: bus style, electric remote with defrost

Power assist steering with tilt/telescopic wheel

Windshield wipers with intermittent and high/low speed

Slide-Out Rooms

Three (3) slide-out rooms, which include manual over-ride capability are provided, two in the communications area and one in the conference room area. Each slide-out includes an awning cover. Operating switches for slide-out rooms are located in main switch panel located adjacent to passenger's position. Slide-out rooms include exclusive slide-trak cable management system to protect all electrical, Cat5-E, and coaxial cable feeds to workstations.

Slide-out rooms increase the overall width of the unit to up to 13'.

Leveling System

A 4-point balanced, hydraulic system is provided. The system has manual override capability and includes an ignition interlock feature that will prevent the vehicle from being moved when the jacks are extended. There are illuminated lights on the leveling jacks control panel adjacent to the driver's seat.

Electrical

The unit is designed to work with 2 onboard generators. Systems are separated in order to achieve optimum performance from the two-Quiet Diesel generators. The forward generator will be a 8 KW unit and the rear generator will be a 12 Kw commercial unit. Both generators are water-cooled.

Current provided by generators is routed through converters for distribution throughout the unit. Battery chargers are installed for each generator that, keep main engine systems and body systems electrical at optimum performance.

Three 50-amp, exterior mount receptacles are located on street side for receiving "shore" power. Only one receptacle is needed while unit is stowed to maintain battery systems. All electrical systems are designed to operate from the onboard generators. No exterior hook-up is required or necessary. However, if long-term deployment is necessary, remote power may be easily connected. **All systems are designed to automatically detect power source and route accordingly. No manual manipulation is necessary. This is a 120-VAC system.**

All wires shall be copper, have thermoplastic insulation and shall be a minimum of 12 AWG, unless the intended load indicates another gauge. Wires of sufficient gauge to handle the intended load for the branch circuit, plus a safety margin of 20% shall be provided.

Unit will be equipped with 3 reels of #6 wire configured to work with preinstalled outlets on unit in order to give up to 50' of additional shore power capabilities.

Electrical Transfer Switching

The vehicle shall be equipped with an automatic bus transfer switch enabling 120 VAC power to be routed to the electrical distribution panel from either the units generators or from a commercial electrical main.

Interior Wiring Specifications

All wiring shall be routed in such a manner as to permit easy access into raceways and conduit to facilitate maintenance and troubleshooting should it be necessary. All AC and DC wiring shall be separated in a manner that prevents AC induction in the DC distribution.

All wiring shall be in accordance with NEC and will meet all appropriate, applicable electrical codes and recognized industry standards.

Safety

Windows shall be treated for outside view only
Front window shall be curtained
Rear Vision: Rear view camera
Leveling Jacks: Hydraulic Operated
120 volt GFCI Protected Circuits
Carbon Monoxide Detector
Emergency Exit Window
LPG Detector
Smoke Alarm
Back-up alarm
Surface Mounted Fire Extinguishers

Heating/Ventilation/Power

Three 50 amp, 120-volt distribution panels and power cord
Electronic Battery Disconnect
Ducted In-Floor Heat, 35,000 Btu Furnace
Two 15,000 Btu Roof Mounted Air Conditioners
Dual Quiet Diesel Generators: One 8 KW and One 12 KW

Furnace

39 gallon LP tank with 35,000 BTU furnace with interior floor vents mounted throughout the unit including the bathroom. LP tank includes gauge as part of fresh water, gray water, black water, and coach battery.

Fresh Water and Gray/Black Water Holding Tanks

Fresh water capacity: 86 gallons
Black water capacity: 44 gallons
Gray water capacity: 60 gallons

Electronic level monitor for each tank is included.

An "Arctic Pack" system is installed with water tanks to prevent freezing in cold climates. Switch is located in forward main panel adjacent to passenger's position.

Ladder

A heavy-duty, custom designed aluminum ladder mounted from the rear bumper to the top of the roof shall be installed. A local illuminating light shall be installed for night operations. Ladder will interact with roof-mounted platform.

Windows

Located as Client desires, white, one-way shrink-wrap with exterior visibility will be installed on all windows. Typically each forward slide-out room will include a window and conference room will include window.

Awnings

An A&E 9000 series awning shall be installed on the curbside of the body. An A&E 9000 series shall be installed on the street side from behind slide-out to the rear of the unit.

Convenience

- Bathroom with lavatory and toilet
- Sink , Faucets and spout
- Ventilation fan
- Microwave Oven
- Coffee Maker (Black & Decker under-counter)
- Water Purifier
- Refrigerator, 4.3 cubic feet, AC
- Clock

Communications & Systems

Overview

This overview is provided as a suggested layout of communications equipment. Individual communications packages will be custom designed work within Client guidelines. This overview is meant to show capabilities of the unit in order to achieve seamless communications in a remote deployment. Client will provide the actual transceivers.

The initial phase of communications package should be the installation of base radios at workstations. The second Phase of the communications package will be the telephone system. Each workstation should have a Telephone handset compatible with the Panasonic Digital PBX system. In addition, there shall be 2 units in the conference room. There shall also be 3 additional units for use under the awnings on the outside of the unit. The phone system shall operate either by landlines or cellular service through an optional ML-500 cellular PBX. Faxing will be accomplished through the ML-500 cellular system.

Local Area Network (LAN)

Each workstation will be wired for LAN connection of laptop computers or desktops.

A 74" high, 19" wide, 25" deep, 40U (70") equipment rack shall contain a work group computer with latest technology based on when order is placed. It shall also include an APC 3000 watt, RM3U UPS device,Panamax 5500 Series AC Regenerator/Power Conditioner, 96 port, CAT 5E patch panel, HP 2524 Procurve Ethernet managed switch with 24 ports, 15"enclosed monitor including keyboard and mouse.

The equipment rack shall also include a DVHS recorder/player, DVD Player and Directv compatible satellite receiver.

The LAN equipment rack shall face forward towards the communications area and is capable of handling additional equipment. The LAN equipment rack will be easily accessed for upgrades, repairs and deletions.

Telephones, Fax Machine, Copiers & Printers

A provided multi-function fax machine shall be located at the printer station with UTP category 5E cable running to the patch panel.

A Panasonic KX-T 1232 D Advanced Digital Telephone PBX/KSU with sixteen (16)-station capacity and eight (8) incoming lines. Lines 1-5 will be configured to work with the optional Transtel ML-500 cellular system.

An optional ML500 cellular backup system shall be wired in parallel to the Panasonic PBX/KSU. The ML-500 system will automatically detect landlines or autoswitch to cellular when landlines are not available.

Each workstation shall include a Panasonic 7130 programmable hybrid telephone mounted on a raised platform in order to keep work area open. There shall also be two (2) additional Panasonic 7130 hybrid telephones mounted in the command area.

Category 5E-telephone cable with am phenol connectors terminating to RG-45 jacks shall be fed from the driver side compartment containing these jacks and ultimately be routed to the patch panel for integration into the PBX/KSU and data ports on the managed switch.

Cellular Access to Panasonic Phone System

The equipment rack shall be configured to accept the optional Transtel ML-500 5-channel cellular phone system with four channels dedicated for voice and one for fax. The fax line shall be routed to the fax machine via the patch panel. The system shall also include five (5) line sensors that automatically switch to cellular when no landline dial done is detected. Additionally, it shall include an antenna combiner for all 5 channels. Client must designate cellular provider and dedicated phone numbers for this system.

Antenna Mounting Channel

An aluminum platform shall be mounted atop the roof and run the full vehicle length providing three (3) inches of clearance above the actual roof to facilitate the running of antenna cables, satellite feed cables. The platform shall be secured to the roof with aluminum braces on each side every 18". The platform shall have a rams horn located above equipment closet for routing of coaxial cable and power cable to roof top components.

Camera and Mast

Unit shall be equipped with a Willburt 30' (TMD 7-30-15X) heavy-duty telescoping mast and include a Nycoil conical conduit for camera operations and for raising and lowering. Mast shall be equipped with pneumatic system for raising and lowering. Mast shall include composite video cable connected between camera and video interface device (rack mounted). A Pelco KBD 200A Pan and Tilt Controller Joystick is provided in the conference room area for control of all camera functions.

Mast controls will be installed in exterior compartment in order to give operator a clear view of the area the mast will be raised.

The masthead shall have a Pelco Esprit Series, high resolution, broadcast quality, weatherproof camera with wiper function that is enabled to pan a minimum of 310 degrees and tilt from 0 to 80 degrees.

The Conference Room/Supervisor's station will be equipped with a wall mounted 42" Plasma, high-resolution monitor. The monitor will interface with NTSC, composite VGA and S-Video inputs. Camera will feed live shots directly to 42" flat screen monitor in conference room for live viewing or taping.

The mast will include custom engineered bracket.

Interior Overhead Lighting/Cabinets

The unit shall include installed cabinets overhead of all the positions.

The interior and exterior finish of the cabinets shall be oak and shall match the interior walls. All cabinets are glued and screwed. All horizontally hinged overhead cabinet doors will be held open with lift/support mechanism. All drawers utilize heavy duty, ball bearing and double-action drawer slides. Drawers shall have brass handles. File drawers will be located within workstations at specific locations desired by agency. All counter tops are Wilsonart laminate with solid oak beveled top edge.

Red/white Fluorescent lights shall run from front to rear of the unit in the middle of the ceiling. Each dispatch station/work station shall include white incandescent lighting with separate switches for each. (Fluorescent lights are not advised in close proximity to laptops or monitors of any type due to video distortion.)

Both the Command and Communications Section shall have several 12-volt DC lights to provide satisfactory lighting in each area when the vehicle has no AC available.

Work Stations

The vehicle shall contain workstations as designated by client, typically 6-8 in the forward operations area and a rear conference room that will handle an additional 4 workstations if necessary

Each 117 VAC outlet at workstation will be protected from power surges and power loss through a 650 watt UPS device.

Each workstation shall be equipped with (2) RJ-45 jacks, (1) 117 VAC duplex, 12-volt D.C. power jack, 1 Panasonic digital telephone, and applicable transceiver.

Each workstation shall have CAT-5E cabling running to equipment closet and CAT-5E phone wiring running to PBX-KSU unit.

Lockable file drawers, corkboards and whiteboards will be located to Clients specification. Workstations, file drawers and countertops are all custom-built, with Wilsonart countertop.

Television and Antenna

The vehicle shall be equipped with 5 television receivers, 2 in front of unit, and the other 3 in the conference room area. The conference room television monitors will be one 42" Plasma display and two each 17" LCD located adjacent to the 42" unit. The forward monitors will consist of a 27" overhead, flush-mount unit above the windshield and an additional 17" unit located as directed by Client.

Satellite Television Reception

An auto-tracking DSS system will be installed and integrated into the video matrix switch and shall include 2 receivers for reception of 2 separate channels if desired.

Video Matrix Switch

A 8 X 8 Video Matrix switch will be installed in the Server Rack. This switch will allow for up to 8 video inputs and 8 video outputs and be push-button controlled in order to distribute video from the 8 sources to any of the 8 outputs.

Exterior Features

Unit shall include custom graphics on sides, front and rear.

The exterior of the command post is equipped with (4) RJ-45 Ethernet jacks, (4) RJ-11 phone jacks, mounted inside exterior lockers for under-canopy operations.

Eight additional 117 VAC, 60 Hz exterior GFI duplex outlets (2 on each side), will be installed for supporting additional equipment.

Unit will have basement storage for foldable tables, chairs, and other equipment as designated by Client.

Unit shall include retractable awnings with quartz lighting for night operations. Lighting will be flush mounted quartz, Whelen 8-42 series.

The unit will be equipped with two 300-watt Focus Quartz-Halogen extension lights (one on each rear corner) for scene lighting.

Unit will include an Oregon Scientific wireless weather station.

Emergency Warning Devices & Lighting

Emergency lighting shall be controlled through Whelen power supplies and switch network and include the following:

Fourteen (14) Whelen series 508 halogen flashers 2-front, (5) each side, and (2) rear. A 12-volt DC Whelen or equivalent Super Strobe S360D series with branch guard mount (or equivalent) “Command Post” green colored strobe to be mounted on front roof. The switch for these lights shall be mounted in the driver’s compartment power control center.

Equipment Closet Specifications

Unit should have static-free equipment closet maintained at 78 degrees through thermostat operated, roof mounted fan. Airflow capacity will be a minimum 550 CFM bottom to top.

Equipment racks will be easily accessible for service and updating as technology changes.

Equipment rack standard unit includes 96-port CAT-5E patch panel with wire management system, 50 patch cords (CAT-5E), Panamax power conditioning unit with 12 A.C. outlets rated 117 VAC 60 Hz +/- .5% APC, UPS commercial device rated minimum 3,000 watt, 24 port (CAT-5E), HP Procurve Ethernet switch-hub, and server computer.

(8) RJ-45 input jacks both standard and amphenol connection

(8) RJ-45 input jacks for external landline connection. In addition, one 300’ reel of CAT-5E data reel for data/phone connection.

Warranties

Chassis: 3 years, 50,000 miles
Engine: 5 years, unlimited mileage
Body: Three years or 36,000 miles
Roof: Ten years
Floor Structurewood: Ten years
Appliances: Three years
Generators: Three years
Communications Components: Manufacturers standard (i.e. Motorola etc…)
Workmanship by Builder: 1 year parts and labor, includes custom interior due to normal wear, installation of EIA racks and wiring. All installed components such as, but not limited to, laptops, TV's, printers, monitors and cameras will carry the standard manufacturers warranty provided.

Training

The contractor shall supply 16 hours of training/indoctrination to be performed at location designated by Client, all manuals ,wiring diagrams, CAD drawings and associated documentation shall be provided by NACS . Training is included in the cost of the unit.

Delivery

The unit will be delivered to Client's designated Location. All costs associated with delivery will be included, Delivery shall be no later than 180 days from date of purchase order.

NORTH AMERICAN CATASTROPHE SERVICES, INC.

Base Model Summary

Model Number NACS-GMCV
38' Gas Chassis Mobile Command Center
Engine, Chassis, Body and Communications Systems Specifications , Internal
Pricing Effective Date : MAY 1, 2005

CHASSIS

2005 Ford Motor Company Super Duty Commercial Type

Engine

The engine shall be a Ford 6.8 Liter (415cid), naturally aspirated gasoline powered V-10 rated at 310 Hp @ 4,250 rpm, 425 lb*ft @ 2,650 rpm.

Basic Engine Equipment

Oil Filter, spin on type
Cooling, Radiator with cooling fan
Crankcase breather
Fuel Filter

Performance Data

Rated hp (kw)	310
Rated rpm	4250
Peak torque	425
Peak Torque rpm	2650

Transmission

Transmission shall be Ford 4R100 4-speed automatic with lock up

Brakes

Front and rear service
Power 4 wheel disc and ABS

Electrical System

Alternator: 130 amp
Batteries: 12 Volt 750cca

Fuel Tank

75 gallon

Vehicle Weight Rating

Front GAWR	7,500 lbs.
Rear GAWR	14,500 lbs.
Gross Vehicle Weight Rating (GVWR)	22,000 lbs.
Gross Combined Weight Rating (GCWR)	26,000 lbs.

Front Axle

Capacity: 7,500 lbs.

Rear Axle

Capacity: 14,500 lbs.
Drive Ratio: 5.38:1

Suspension

Type: Leaf Type
Shock Absorbers: Gas shocks

Tires

Make: Goodyear or equal
Size: 245/70Rx19.5F

Wheels

Size: 19.5 x 6.75
Pattern: 8 Bolt Disk

Instrumentation

Gauges: Speedometer with odometer, Tachometer, Engine Oil Pressure, Water Temperature, Coolant Level, Voltmeter, Fuel Level

Switches and controls: Auxiliary Engine Start, Remote Mirror Control, Mirror Heat, ICC Lights, Driving Lights, Dash Fans, Air conditioning and Heating, Generator Start/Stop, Hydraulic Leveling Jacks, Windshield Wiper/Washer, Transmission Shifter, Cruise Control, Steering Wheel Tilt, Horn

Body Specifications

Dimensions
Overall Length: 38' 3"
Overall Width, Slides In: 100"
Overall Width, Slides Out: 122"
Overall Height: 12' 4"
Interior Walkway Height, finished: 78"
Interior Finished Body Width: 96"

Body Construction

- Floor: Vacuum laminated 3" steel frame with ducted heating, ½ in. Structurewood Flooring with under floor steel truss system.
- Walls: Laminated aluminum framed sidewalls
- Roof: Laminated aluminum framed one-piece system
- Compartment Doors: Laminated aluminum, insulated
- Exterior Surface: Filon Fiberglass Skin
- Undercoating: Factory Installed and includes all underbody surfaces
- Mirrors: Remote Operated, heated
- Insulation: Unit will have factory installed Arctic Insulation Package
- Doors: Shall have piano hinges with mechanical hold open mechanism. Door shall have slam locks with keyed entry. Forward door should be approximately 3' rear of passenger seat. Rear door will give direct entry into conference room area.
- Steps: There shall be electric deploy steel entry steps painted black with non-skid surfaces and yellow warning tape.
- Grab Handles: There shall be one grab handle on the exterior wall for each door, and one grab handle in the interior of unit for ease and safety of exit.
- Lights: Body shall be equipped with combination stop/tail, reverse, headlight and running lights
- Engine and service access: There shall be top hinged lift panel with supports at front for general servicing
- Mud Flaps: Anti-sail flaps shall be installed front and rear
- Glass: Windshield shall be safety plate with tinting, and to include driver and passenger sun visors
- Seats: Drivers/Passenger seats are reclining, swivel bucket type
- Engine Cover: Shall be fabricated with insulation to include acoustic and heat emissions.

Driver/Passenger Compartment

- Lighting: Driver/Passenger gooseneck style map lights
- Seating: Driver shall have sliding type window and screen
- Television: Mounted in ceiling compartment for live on-scene video interface or Satellite reception.
- Entertainment: Deluxe AM/FM/CD Stereo
- Comfort: Automotive style heating/AC system while transporting

Safety

- Windows treated for outside view only
- Rear Vision: "Video Man" Rear view camera with audio and day/night feature
- Leveling Jacks: Hydraulically Operated four point
- 117-VAC GFI Protected Circuits
- Carbon Monoxide Detector
- Emergency Exit Window
- LPG Detector
- Smoke Alarm
- Back-up alarm
- Surface Mounted Fire Extinguishers: Three 3A 20BC rated extinguishers; one located in front cab, one in rear conference area adjacent to equipment rack, and one in driver side exterior locker adjacent to batteries and power converter

Heating/Ventilation/Power

- Two 50-amp, 117-VAC distribution panel and power cords
- Two 55 Amp 12 volt power Converter/Chargers
- Electronic Battery Disconnect
- Ducted in-floor heat, 35,000 Btu furnace Suburban Model 79-1803 L.P. gas. Unit provides floor-ducted heat throughout vehicle and provides heat for compartments under floor level.
- Dual 15,000 Btu Roof Mounted Brisk Air ducted air conditioners
- **Dual 7-KW Onan Marquis Generators**

Convenience

- Installed one (1) 3 GPM water pump with accumulator tank.
- Battery monitor
- Cab Darkening Curtains: Custom fit to wrap around windshield and cab windows. Fabric meets FMVSS 571.302 requirements

Walls, Ceiling, and Floor

- Walls insulated with 2" high-density non-flammable polystyrene
- Floor underlayment is 1/2" marine structure wood with a 10-year warranty
- Flooring is a non-skid static free commercial grade continuous non-seam PVC material
- All cabinet doors will be covered with white dry erase board surfaces

Floor plan Overview

The unit will be designed with three separate areas. The forward area will contain a minimum of six workstations positioned within the slide-out rooms of the vehicle. The central area will consist of the lavatory and galley on one side and the central communications rack and equipment closet on the other side. The rear area will be configured as a conference room with workstation capabilities at two of the positions. The conference room will be separated from the other areas with a pocket door and a separate rear entrance.

Slide-Out Rooms

The unit will have two slide-out rooms. The street side slide-out room should begin just behind the driver's position and continue towards the rear approximately 13', allowing at least four workstation positions, with the Communications Officer's position closest to the Central Communications Rack. The curbside slide-out room should begin just rear of the forward entry door and continue towards the Galley-Lavatory and allow for two more workstations.

Lavatory

- Traveler Lite pedal flush
- GFI 117 vac dual outlet
- Mirror
- Medicine cabinet
- Lavatory sink
- Towel Bar and toilet paper roll
- Holding tanks are 41 gallon gray, 41 gallon black, and 61 gallon fresh water

Galley

- One microwave oven.
- One commercial grade under cabinet coffee maker with 12-cup capacity including slide- out feature
- One AC refrigerator with minimum 4.3 cubic foot capacity, freezer,
- Fresh water capacity is 61 gallons and liquid petroleum tank capacity is 29 gallons

Work Stations

The Command Unit will contain a minimum of 6 workstations and a rear conference room equipped with 2 workstations. The supervisor's station will be adjacent to the printer workstation area with Cat 5E wiring running back to equipment rack closet and terminated with Panduit Cat 5E RG-45 jacks. The printer workstation will have two heavy-duty slide out trays and a counter top to accommodate up to two pieces of equipment such as printer, fax machine, copier or scanner.

Each workstation is equipped with one (1) Panduit RJ-45 jack, one (1) 117 VAC duplex, one (1) 12-volt D.C. power jacks, 1 telephone modular plug or jack as per customer specification. (RJ-11)

Each workstation has CAT-5E cabling running to equipment closet and CAT-5 phone wiring running to equipment rack adjacent wall. Both ends of the data Cat 5E data cable shall be terminated with Panduit Cat 5E RJ-45 jacks.

All work stations and under counter dual map lights are configured for surface lighting and includes overhead lighting, corkboards and erasable white boards.

Television and Antenna

The unit will be equipped with 3 television receivers, one in front of unit, flush-mounted above windshield, the other two receivers will be in the conference room area. The conference room receivers will be a 42" Plasma display and the other to be a 17" LCD display. This will allow for simultaneous viewing of on-scene activities through Pelco Camera and viewing of VCR,DSS AND VHF/UHF TV

Antennas will be omni-directional VHF and UHF capable for local reception range and a fully automatic tracking KVH Tracvision S-3 antenna for DSS system.

Exterior Features

Unit will include custom graphics on sides, front and rear of unit in accordance with Clients request.

The passenger side exterior of the command post is equipped with six (6) RJ-45 Ethernet jacks, six (6) RJ-45 phone jacks, three (3) 12 volt D.C. power jacks. These shall be mounted inside exterior lockers for under-canopy operations.

Two additional 117 VAC, 60 Hz exterior GFI quad outlets will be installed on the passenger side for supporting additional equipment.

The driver side exterior of the unit is equipped with eight (8) RJ-45 telephone input jacks and four (4) RJ-45 Cat-5E input data jacks. All cabling is run to the equipment closet with all data cables terminated with Panduit Cat-5E jacks for integration into an installed patch panel.

Unit will include a 17-foot retractable awning.

Equipment Closet Specifications

Unit will have static-free equipment closet with ventilation provided. Airflow capacity will be a minimum 550 CFM bottom to top.

One EIA equipment rack, configuration will be a 40U 19" wide, 74" high and 25" Deep with braided grounding to chassis ground and shock mounted with common ground to roof mounted ground plates.

Equipment rack closet will be easily accessible to the back pane of patch panel and rear of equipment rack with a 20" door for service and updating as technology dictates.

Cabinets

- Fabricated and installed interior storage cabinets, counters, shelves, tables and workstations.
- All cabinet's fronts are constructed of oak, stained and lacquered.
- All cabinet interiors are constructed of ¾" exterior grade poplar plywood, stained and lacquered.
- All cabinets are glued and screwed.
- All screws are to be countersunk and plugged with solid oak plugs.
- Shelves to be constructed of ¾" exterior grade poplar plywood with no voids on sides.
- All overhead cabinet doors have dry erase board doors.
- All horizontally hinged overhead cabinet doors will be held open with lift/support hardware.
- All drawers use heavy-duty, ball bearing, double-action drawer slides.
- Countertops are covered in .040" Wilsonart laminate, color determined by Client.
- All exposed edges are ¾" x 1 ½ solid oak with beveled top edge to prevent chipping.

Interior

- Installed white dry-erase boards and pin boards with oak edging.
- Installed map storage in rear conference room area.
- Provide 6 (6) operational chairs for communications workstations, conference room will be bench seating. Chairs will be high backs, arms, five caster spider base and height adjustable. Chairs shall be secured while in transit with bungee straps.
- All compartments and controls have labels where required.
- Installed two (2) 10ABC dry chemical fire extinguishers.
- Two lockable 4 drawer file cabinets across from galley area
- Storage cabinets mounted above all workstations, and the supervisor's station.

Communications & Systems

Overview

This overview is provided as a preliminary layout of communications equipment. Client will provide RF communications specifications to NACS.

The initial phase of communications package should be the installation of Client radios at workstations. A central communications panel can contain additional transceivers. The second Phase of the communications package will be the telephone system. Each workstation should have a Telephone handset compatible with the Panasonic Digital PBX system. In addition, there shall be 2 units in the conference room. There shall also be 3 additional units for use under the awnings on the outside of the unit. The phone system shall operate either by landlines or

cellular service, when optional ML-500 module is requested. Broadband Internet access will be achieved by an optional auto-deploy, commercial duty auto-tracking KU band, 2-Way Sat Dish System.

Technical Specifications for Optional 2-Way Sat Dish System

This system will allow broadband Internet access throughout the workstations via the LAN. Unit consists of auto-deploy, auto-tracking, roof-mounted antenna. The upgraded optional Satellite system unit can be utilized for Vo/IP, Video-Teleconferencing, and Video streaming. The unit must allow non-skilled personnel to operate mobile Very Small Aperture Terminal (VSAT) satellite communications equipment enabling the user to access any broadband application over satellite.

This system will be capable of the following:

- Automatic satellite acquisition with a single button push
- Rapid deployment and operation on every Ku-band satellite, worldwide
- Works with every satellite modem
- Built-in GPS and compass
- Built-in satellite receiver
- Built-in level sensor
- Automatic polarization alignment

Local Area Network (LAN)

A 74" high, 19" wide, 25" deep, 40U (70") Series equipment rack shall contain a server as specified by Client IT department. (Client will procure the server computer) It shall also include an APC 3000 watt, RM3U UPS device, Panamax 5500 series AC regenerator/power conditioner, 96 port, CAT 5E patch panel, and TFT 15" enclosed monitor including keyboard and mouse.

The equipment rack shall also include a DVHS/VCR Recorder/Player (digital) and a Directv compatible satellite receiver.

The LAN equipment rack shall face the rear towards the conference room area.

Telephones, Fax Machine, Copiers & Printers

A provided multi-function fax machine shall be located at the printer station with UTP category 5E cable running to the patch panel.

A Panasonic KX-T 1232 D Advanced Digital Telephone PBX/KSU with sixteen (16)-station capacity and eight (8) incoming lines. Lines 1-5 will be configured to work with the optional Transtel ML-500 cellular system.

The optional ML500 cellular backup system shall be wired in parallel to the Panasonic PBX/KSU. The optional ML-500 system will automatically detect landlines or switch to cellular when landlines are not available.

Each workstation shall include a Panasonic 7130 programmable hybrid telephone mounted on an oak platform. There shall also be two (2) additional Panasonic 7130 hybrid telephones mounted in the command area.

Category 5E-telephone cable with am phenol connectors terminating to RJ-45 jacks shall be fed from the driver side compartment containing these jacks and ultimately be routed to the patch panel for integration into the PBX/KSU and data ports on the managed switch.

Optional Cellular Access to Panasonic Phone System

The equipment rack shall be configured to accept an optional Transtel ML-500 5-channel cellular phone system with four channels dedicated for voice and one for fax. The fax line shall be routed to the fax machine via the patch panel. The system shall also include five (5) line sensors that automatically switch to cellular when no landline dial done is detected. Additionally, it shall include an antenna combiner for all 5 channels. Client will designate cellular provider and dedicate phone numbers for this system.

Central Communications Panel

The central communications equipment rack, 74" high, 19" wide, 20" deep, 40U (70 in.) shall be located on the forward side of the communications closet.

Antenna Mounting Channel

An aluminum platform shall be mounted atop the roof and run the full vehicle length providing three (3) inches of clearance above the actual roof to facilitate the running of antenna cables, satellite feed cables. The platform shall be secured to the roof with aluminum braces on each side. The platform shall have a rams horn located above equipment closet for routing of coaxial cable and power cable to roof top components.

Camera and Mast

Unit shall be equipped with a Willburt 20' (TMD-5-20) telescoping mast and include Nycoil conical conduits for camera operations. Mast shall be equipped with pneumatic system for raising and lowering. Mast shall include composite video or super VHS cable connected between camera and video interface device (rack mounted). A Pelco KBD 200A Pan and Tilt Controller Joystick will be provided in the conference room area for control of all camera functions.

The video interface device shall have outputs for onboard 42" Plasma video monitor, DVHS recorder and satellite transceiver.

The masthead shall have a Pelco Esprit Series, high resolution, broadcast quality, and weatherproof camera with wiper function that is enabled to pan a minimum of 310 degrees and tilt from 0 to 80 degrees.

The Conference Room/Supervisor's station will be equipped with a wall mounted 42" Plasma, high-resolution monitor. The monitor will interface with NTSC, composite VGA and S-Video inputs. Camera will feed live shots directly to 42" flat screen monitor in conference room for live viewing or taping.

The mast will include custom engineered bracket for mounting of repeater antennas.

Interior Overhead Lighting/Cabinets

The unit shall include installed cabinets overhead of all the dispatch positions. These shall have dimensions specified by agency.

The interior and exterior finish of the cabinets shall be oak and shall match the interior walls. Exterior surface of cabinet doors will be erasable white board. All cabinets are glued and screwed. All horizontally hinged overhead cabinet doors will be held open with lift/support mechanism. All drawers utilize heavy duty, ball bearing and double-action drawer slides. Drawers shall have brass handles. File drawers will be located within workstations at specific locations desired by agency. All counter tops are Wilsonart laminate with solid oak beveled top edge.

Fluorescent lights shall run from front to rear of the unit in the middle of the ceiling. Each dispatch station/work station shall include white incandescent lighting with separate switches for each. (Fluorescent lights are not advised in close proximity to laptops or monitors of any type due to video distortion.)

Both the Command and Communications Section shall have several 12-volt DC lights to provide satisfactory lighting in each area when the vehicle has no AC available.

Video, Television and Antenna

The vehicle shall be equipped with three video monitors, one in the forward area of the unit, and 2 units in the conference room area. Antennas will be omni-directional VHF and UHF capable for local reception range and a fully automatic tracking antenna for DSS system. DSS system shall include 2 receivers for reception of 2 separate channels if desired.

An *8 X 8 Knox Video switching system will be installed in the LAN rack for video distribution of various inputs and outputs.

*Video Switch may be upgraded if Client needs are not met with 8 X 8 Switch.

Exterior Lighting

Unit shall include retractable awnings with quartz lighting for night operations. Lighting will be surface-mounted quartz.

The unit will be equipped with two 300-watt Focus Quartz-Halogen extension lights (one on each rear corner) for scene lighting.

Weather Station

Unit will include an Oregon Scientific wireless weather station.

Emergency Warning Devices & Lighting

Emergency lighting shall be controlled through Whelen power supplies and switch network and include the following:

Fourteen (14) Whelen series 508-halogen flashers (2)-front, (5)- each side, and (2)-rear will be installed and integrated into Whelen power supplies. A 12-volt DC Whelen or equivalent Super Strobe S360D series with branch guard mount (or equivalent) "Command Post" green colored strobe to be mounted on front roof. The switch for these lights shall be mounted in the driver's compartment power control center.

Equipment Closet Specifications

Equipment racks will be easily accessible for service and updating as technology changes. A pocket door will be installed for easy access to rear of either the communications rack or the LAN rack.

Equipment rack standard unit includes 96-port CAT-5E patch panel with wire management system, 50 patch cords (CAT-5E), power conditioning unit with 12 A.C. outlets rated 117 VAC 60 Hz +/- 3% APC, UPS commercial device rated minimum 3,000 watt, 24 port (CAT-5E).

Warranties

Chassis: 3 years, 36,000 miles
Engine: 3 years, 36,000 miles
Body: 5 years or 50,000 miles
Roof: 10 years
Floor Structurewood: 10 years
Appliances: 3 years
Generator: 3 years
Workmanship by Builder: 1 year parts and labor, includes custom interior due to normal wear, installation of EIA rack and wiring. All installed components such as, but not limited to, TV's, satellite receivers and auto tracking satellite dish systems will carry the standard manufacturers warranty provided.

Delivery

The unit will be delivered to Client's designated Location. All costs associated with delivery will be included. Delivery shall be no later than180 days from date of purchase order.

Training

The contractor shall supply 16 hours of training/indoctrination to be performed at location designated by Client, all manuals, wiring diagrams, CAD drawings and associated documentation shall be provided by NACS. Training is included in the price of the unit.